

7 ways to engage students in lectures

King's Learning Institute

1. Activate student prior knowledge

Students rarely come to lectures with no knowledge of a topic. Finding out what they already know can help you to pitch your teaching at the right level of academic challenge and identify and correct student misconceptions.

Put it into practice: Begin the lecture with a PowerPoint slide or handout with 2 or 3 open-ended questions and get students to work in pairs to answer them. Brainstorm responses or ask several volunteers to share their answers. Ask 5 to 10 multiple choice questions on the topic based on what you expect students to already know. Use a show of hands for each answer to quickly identify areas you will not need to waste time covering as well as spotting the gaps in student prior understanding. You can then use the lecture to focus on new knowledge for the students and how it relates to their existing understanding. Repeat this type of quiz at the end of the lecture and students get immediate feedback on their learning.

2. Use questions

In most cases when you are lecturing you do not want students just to memorise information but to engage with it in thoughtful or critical ways. Rather than approaching the lecture as an opportunity to provide answers, think about the lecture as a space to model how to ask the right questions.

Put it into practice: Begin the lecture with rhetorical questions instead of learning outcomes to rethink the lecture from an inquiry-based perspective. Stopping the lecture to set questions for individual students to answer individually or discuss in pairs or small groups within the large class can help consolidate new concepts or topics immediately. Try asking students to paraphrase a new idea or argument in their own words, solve a problem, predict the outcome of an experiment, spot an error, answer a multiple choice question, list and prioritise concepts, do a differential diagnosis or pose two or three questions for you to answer.

3. Encourage active learning

It is very difficult to remain fully engaged with a lecture for 50 minutes however inspiring or interesting the lecturer or topic is. This is especially the case if there is little variation in the mode of delivery. Varying inputs, for example using images, short audio or video clips or guest lecturers, can improve concentration but encouraging active learning is essential for developing understanding.

Put it into practice: Ask students to look through their notes and revise or re-organise them. For example, highlight the important points, identify primary and subsidiary information or distinguish between claims and evidence. Getting students to draw a concept map or mind map based on their notes can help to emphasise the underlying structure of the topic. If you want to get individual students to ask or answer questions remember 'Think, Pair, Share'. Start by letting students think individually, then share ideas in pairs. Once they have rehearsed their thoughts and got feedback from a peer they will be more confident about sharing their ideas with a large group. Remember to always leave enough time after you have asked a question for students to answer.

4. Use incomplete handouts

Although many modules now provide copies of PowerPoint presentations in advance of lectures these do not have to include everything presented in the lecture and are not an alternative to attending the class. Handouts which students have to complete as they participate in class ensure they are actively making individualised notes that are personally meaningful to them.

Put it into practice: Leave spaces in handouts for students to write definitions in their own words or record their own examples for a specific idea. You can also ask students to complete diagrams, fill in missing labels, work through a proof, plot a graph, complete a flow chart or fill in values in a table. Providing the correct answers ensures that students still have a full set of notes at the end of the lecture but they have actively participated in creating their notes rather than copying down everything in class or just picking up the handout afterwards.

5. Use demonstrations or examples

Most of the time you want students to be able to do something with the information that has been introduced in lectures whether that is to carry out an experiment, undertake a diagnosis, synthesise evidence or analyse multiple arguments. Modelling these disciplinary skills in lectures is fundamental to helping students understand how an expert thinks and acts. Real world examples or problems are valuable ways to demonstrate the application of abstract concepts in practice. Drawing on students' own experiences is also a powerful way to motivate and engage students.

Put it into practice: Demonstrate how to carry out a procedure such as working through a problem, taking measurements or reading a text closely. Ask students to identify the stages of the procedure from observation. Also drawing on students' experiences, for example, as consumers or technology-users to explain software design and user interfaces, can be more meaningful and helps to connect new or abstract knowledge to their prior understanding. Real case studies or simulations are used extensively in some disciplines but can be adapted in many subjects. Many lecturers use an example after an abstract concept is introduced. Try reversing this by starting with an example or problem and model how to infer the principles from the example.

6. Ensure your teaching is culturally inclusive

Student groups can be culturally diverse and students may have very different prior knowledge, prior educational experiences and cultural reference points. Teaching for cultural difference is important to ensure all students understand your expectations about how they should learn in a lecture and also be able to access the content. While real world examples are important, make sure that these are comprehensible to someone new to the UK context. In an international university, preparing students for future international and intercultural careers, drawing on the variety of student international experiences can also significantly benefit all students.

Put it into practice: Explain brand names – for example, international students may not be familiar with UK high street chains or companies – and pay attention to colloquialisms or cultural references. Use international examples where relevant to compare and contrast how the context impacts on the principles of a topic. Think about how to draw on the international students as a resource with perspectives and insights into how a concept or issue applies in their own cultural context.

7. Enable learning before the lecture

Many resources are now available online for students to access along with other multimedia resources or readings in advance of a lecture. Engaging students to complete pre-class activities to introduce new content can improve their performance over traditional lecture attendance alone. This is a modified version of the inverted classroom or 'flipped' lecture where the information transfer role of the lecture and student independent study are reversed. While the fully 'flipped' lecture might not be appropriate in your context, shifting some information-giving outside of the lecture will give you more time to support higher level outcomes in class.

Put it into practice: Provide short pre-class assignments using one-page worksheets, a narrated PowerPoint presentation, podcasts, readings or direct students to resources. Scaffold student engagement with the preparatory resources using questions and ask students to post their answers online or post questions or comments in advance so you can follow up on these in the lecture. If lecture capture is available in your context students can watch a pre-recorded lecture before the large class. Combine pre-class assignments with active face-to-face time to work through examples, develop advanced understanding of concepts or problem-solve.

Find out more

Cooper, James L. and Robinson, Pamela (2000) 'Getting started: informal small group strategies in large classes', *New Directions for Teaching and Learning*, 81: 17–24.

An accessible US paper with a number of different strategies for 'making large groups small' with disciplinary examples to demonstrate how these strategies work in practice.

Exley, Kate and Dennick, Reg (2004) *Giving a lecture: From presenting to teaching* (London: Routledge).

A good introduction to lecturing including planning and different ways to structure a lecture. Chapter 6 focuses on how to develop active learning in lectures and chapter 7 looks at handouts.

Schreyer Institute for Teaching Excellence, Penn State University *Teaching large classes*.

This Penn State University website on large group teaching has an excellent resource section with a set of downloadable PDFs explaining how to set up and use a range of different active learning strategies in lectures including think-pair-share exercises, simulations, jigsaw and concept mapping.

Smith, Karl A. (2000) 'Going deeper: Formal small-group learning in large classes', *New Directions for Teaching and Learning*, 81: 25–46.

This paper builds on the Cooper and Robinson (2000) paper above but extends the active learning strategies to make interaction a central component of the lecture.